[0076] FIG. **11** illustrates a further method according to certain embodiments. As shown in FIG. **11**, at **1110**, an ENB may configure the maximum number of resources and the prioritized resource list to each UE. Moreover, at **1120**, the UE may derive the resource for C-PUSCH from the lowest PRB index of the first resource group in the prioritized resource list.

[0077] At **1130**, the UE may first select the resources in the prioritized resource list. The resources may be selected in the first resource group, then second resource group, and so on. Then, at **1140**, if the resources in the prioritized resource list cannot meet the requirements, the UE may try to seek other resources which are not for C-PUSCH of other UEs, while ensuring that the overall resources do not exceed the maximum number of resources configured by eNB. If the requirements still cannot be satisfied, at **1150**, the UE may select the resources used for C-PUSCH of another UE. The resources used for C-PUSCH of the same UE cannot be used. Keep the overall resources don't exceed the maximum number of resources configured by eNB.

[0078] If collision happens, the eNB may re-configure the maximum number of resources and the prioritized resource list to each UE. For example, an initial configuration may include the following: maximum number of resource group: 3; prioritized resource list: resource group 1,4,8. However, a reconfiguration may include the following: maximum number of resource group: 2; prioritized resource list: resource group 1,4. This is simply one illustrative example.

[0079] Certain embodiments may have various benefits. For example, no scheduling request and buffer statuses may be needed any more. Moreover, the downlink control signaling for UL grant may be reduced. Furthermore, the scheduling latency may be reduced.

[0080] Additionally, in certain embodiments, the PUCCH overhead for contention based transmission is low. Furthermore, the collision of contention based transmission may be reduced. Finally, resource efficiency may be improved as compared to previous approaches.

[0081] FIG. **12** illustrates a method according to certain embodiments. As shown in FIG. **12**, at **1210**, a method may include preparing control information for a contention based physical uplink shared channel. Here, the term "preparing" may broadly refer either to deciding what the control information will be or to determining the control information decided by another network element. At **1220**, the method may include transmitting and/or receiving the control information on a physical uplink control channel and a control only physical uplink shared channel, or only on the control only physical uplink shared channel.

[0082] The method may also include, at **1230**, providing, in the physical uplink control channel, an uplink transmission indicator. Moreover, the method may include, at **1235**, providing, in the control only physical uplink shared channel at least one of a hybrid automatic repeat request process identifier, a resource allocation, a modulation and coding scheme, a new data indicator, redundancy version, and demodulation reference signal ports.

[0083] The method may further include, at **1240**, providing, in the physical uplink control channel, a hybrid automatic repeat request process identifier. The method may also include, at **1245**, providing, in the control only physical uplink shared channel at least one of a resource allocation, a modulation and coding scheme, a new data indicator, redundancy version, and demodulation reference signal ports.

[0084] The method may additionally include, at **1250**, providing no physical uplink control channel. Furthermore, at **1255**, the method may include providing, in the control only physical uplink shared channel at least one of a hybrid automatic repeat request process identifier, a resource allocation, a modulation and coding scheme, a new data indicator, redundancy version, and demodulation reference signal ports.

[0085] At **1260**, the method may further include transmitting and/or receiving on a contention based physical uplink shared channel. The transmitting on the contention based physical uplink shared channel may include transmitting in a same subframe as the transmitting the control information. Moreover, the transmitting the control information may include transmitting on a physical uplink control channel for initial transmission, a physical uplink control channel for re-transmission, a control only physical uplink shared channel for initial transmission, and a control only physical uplink shared channel for retransmission on the same subframe. The transmitting on the contention based physical uplink shared channel may include transmitting contention based physical uplink shared channel for initial transmission and contention based physical uplink shared channel for retransmission in the same subframe.

[0086] FIG. **13** illustrates yet a further method according to certain embodiments. As shown in FIG. **13**, a method may include, at **1310**, configuring a prioritized resource list for each user equipment. The method may also include, at **1320**, configuring a maximum number of resources for contention based transmission for each user equipment. The configuring the maximum number of resources may include configuring a maximum number of resources groups. The configuring the maximum number of resources may, alternatively, include configuring a maximum number of physical resource blocks. In another alternative, the configuring the maximum number of resources may include configuring the maximum number of resources as zero.

[0087] FIG. **14** illustrates a system according to certain embodiments of the invention. In one embodiment, a system may comprise several devices, such as, for example, access point **1410** and UE **1420**. The system may comprise more than one UE **1420** and more than one access point **1410**, although only one of each is shown for the purposes of illustration. The system may also involve only at least two UEs **1420** or only at least two access points **1410**. Each of these devices may comprise at least one processor, respectively indicated as **1414** and **1424**. At least one memory may be provided in each device, and indicated as **1415** and **1425**, respectively. The memory may comprise computer program instructions or computer code contained therein. One or more transceiver **1416** and **1426** may be provided, and each device may also comprise an antenna, respectively illustrated as **1417** and **1427**. Although only one antenna each is shown, many antennas and multiple antenna elements may be provided to each of the devices. Other configurations of these devices, for example, may be provided. For example, access point **1410** and UE **1420** may be additionally configured for wired communication, in addition to wireless communication, and in such a case antennas **1417** and **1427** may illustrate any form of communication hardware, without being limited to merely an antenna.

[0088] Transceivers **1416** and **1426** may each, independently, be a transmitter, a receiver, or both a transmitter and a receiver, or a unit or device that may be configured both for transmission and reception.